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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,602	03/24/2004	James S. Whitaker	2802-107-025	3678

7590 03/29/2006

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EXAMINER	
LOPEZ, FRANK D	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/807,602	WHITAKER ET AL.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *January 5, 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's arguments filed January 5, 2006, have been fully considered but they are not deemed to be persuasive.

Applicant argues that the valve 11 of Fuhrimann is not a hot oil shuttle valve, since it is made up of two check valves and a single relief valve. The two check valves (called pressure relief valves at column 2 lines 67-69) allow flow from the charge pump to the low pressure line of the circuit. The relief valve enables excess flow from the charge pump to the reservoir (column 2 line 1-8).

The examiner disagrees. Fuhrimann states "The feed and flushing block 11 enables the replacement of the leakage loss of oil due to the pressure in the closed oil circuit 1, 2, 3 and 4 and an exchange of oil and therewith venting of oil pipes 2 and 3 which are alternately under pressure and not, so as to prevent overheating" (column 2 line 62-67, emphasis added); and "The feed and flushing block 11 further include two pressure relief valves directed counter to each other which allow excess pressure to excape alternately into one of the pipes not to be under pressure" (column 2 line 69-72, emphasis added). These statements indicate that the feed and flushing block 11 has three purposes: to replace fluid into the circuit by the charge pump (i.e. replace leakage loss and exchange of oil); exhausting of hot oil from the circuit (venting of pipes to prevent overheating) and venting pressure from one side to the other when the one side has excessive pressure (further relief valves). Furthermore, the relief valve (31) for the charge pump is not part of the feed and flushing block, since it is shown separate from the feed and flushing block 11. There is nothing in Fuhrimann which supports applicant's interpretation of Fuhrimann.

Applicant argues that the valve (32 or 34) of Fuhrimann is not a hot oil shuttle valve, since it acts as a relief valve for directing excess flow discharged from the charge pump back to the reservoir. Applicant points to the line 60 of fig 1, as the line connecting the valve to the charge pump. Applicant is mistaken. The valve (32 or 34) is connected to the reverse pressure line (62, see e.g. fig 3 and column 3 line 22-24) to drain it to the

reservoir. The valve is controlled by pilot pressure from the reverse pressure line and pilot pressure from the charge pump (via line 60), but does not vent the charge pump to the reservoir. The relief valve for the charge pump is 44. Since the valve (32 or 34) vents hot oil from the closed circuit to the reservoir, it is a hot oil shuttle valve as claimed in the claims.

The interpretation of a shuttle valve is that it is a generic valve, which moves (shuttles) between at least two positions. Nothing in applicant's arguments indicate that the shuttle valve has any other interpretation.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 2-4, 8, 9, 11, 12 and 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Fuhrimann (see discussion below).

Claims 2, 3, 5, 7, 8, 9 and 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cochran et al (see discussion below).

Claim 7 is rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Fuhrimann. Fuhrimann discloses a hydraulic system comprising a hydraulic circuit having first and second lines (2, 3, respectively) connecting first and second ports of a variable displacement pump (1), respectively, with first and second ports of a motor (4), respectively; a charge pump (7) connected to the circuit and a reservoir (15); and a hot oil shuttle valve of known design (11, column 2 line 1-2) integrated into the pump (as shown by dash and dotted line around the pump and shuttle valve), for diverting a portion of the fluid flowing through the circuit to the reservoir; but does not say that the hot oil shuttle valve is a spool valve. Hot oil shuttle valve of known design include spool type valves (see e.g. Weisenbach). Therefore, inherently, the hot oil shuttle valve of known design includes a spool type valve housed in a bore. If not, it would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hot oil shuttle valve of Fuhrimann a spool type valve in a bore, as a matter of engineering expediency.

Claim Rejections - 35 USC § 103

Claims 1 and 10 are rejected under 35 U.S.C. § 103 as being unpatentable over Fuhrimann in view of Cochran et al. Fuhrimann discloses all the elements of claims 1 and 10, as discussed in the above rejection, and further includes first (e.g. 12), second (e.g. 13) and third (14) passages connected to first and second lines, and the reservoir, respectively; but does not disclose that the third passage is connected to a case drain line connecting the pump to the reservoir.

Cochran et al teaches, for a hydraulic system comprising a hydraulic circuit having first and second lines connecting first and second ports of a variable displacement pump (e.g. 18), respectively, with first and second ports of a motor (e.g. 24), respectively; a charge pump (12) connected to the circuit and a reservoir (20); and a hot oil valve (34) integrated into the pump (column 4 line 6-9), for diverting a portion of the fluid flowing through the circuit to the reservoir, through a third passage; that the third passage is connected to a case drain line (65) connecting the pump to the reservoir.

Since the third lines of Fuhrimann and Cochran et al are functionally equivalent in the piston art; it would have been obvious at the time the invention was made to one having ordinary skill in the art to connect the third passage of Fuhrimann to a case drain line connecting the pump to the reservoir, as taught by Cochran et al, as a matter of engineering expediency.

Claims 6 and 13 are rejected under 35 U.S.C. § 103 as being unpatentable over Fuhrimann in view of Cochran et al. Fuhrimann discloses all the elements of claims 6 and 13, as discussed in the above rejection; but does not disclose that the motor is a two speed motor.

Official notice is taken that it is well known, for a hydraulic system comprising a hydraulic circuit having first and second lines connecting first and second ports of a variable displacement pump, respectively, with first and second ports of a motor, that the motor can be either a fixed displacement motor or a two speed motor. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the motor of Fuhrimann a two speed motor, as a matter of engineering expediency.

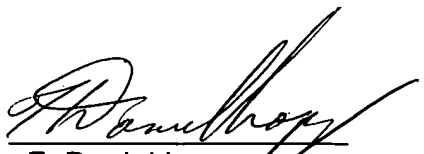
Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571- 272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
March 23, 2006